

San Francisco Bay Conservation and Development Commission

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March 29, 2019

TO: Commissioners and Alternates

FROM: Lawrence J. Goldzband, Executive Director (415/352-3653; larry.goldzband@bcdc.ca.gov)
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SUBJECT: Staff Recommendation for Amendment No. Two to Consistency Determination No. C2015.006.00 for the U.S. Army Corps of Engineers' and US Fish and Wildlife Service's South Bay Shoreline Project
(For Commission consideration on April 4, 2019)

Recommendation Summary

The staff recommends that the Commission concur with the U.S. Army Corps of Engineers' (USACE) and US Fish and Wildlife Service's (USFWS) Consistency Determination (BCDC Consistency Determination No. C2015.006.00) that construction of additional features of the South San Francisco Bay Shoreline Project, Phase 1, including: a temporary railroad crossing between levee Reaches 1 and 2; the construction of levee Reaches 2 and 3; a flood closure gate across the railroad; a pedestrian bridge over the railroad; and a water control structure through levee Reach 3, between Pond A16 and New Chicago Marsh, is consistent to the maximum extent practicable with the Commission's Coastal Zone Management Program for San Francisco Bay, as amended. This consistency determination is for Reaches 2 and 3 levee and associated construction activities of Phase 1 of the phased consistency determination **only**. The Commission is evaluating this portion of the project to allow additional construction activities to begin while the USACE further develops project plans and specifications for levee Reaches 4 and 5, water control structures at Artesian Slough, the complete public access program, and the associated restoration of former salt ponds A9 through A16, and A18 consistent with the conceptual plan that the Commission approved.

By 2032, the complete South San Francisco Bay Shoreline Project will result in:

1. 3.8 miles (19,776 feet) of 15.2-foot high NAVD88 levees, replacing existing salt pond berms (the height of the levees will be approximately 10 feet above the existing berms);
2. A flood closure gate at the Union Pacific railroad tracks and a tide gate at Artesian Slough;
3. Approximately 345-foot-wide ecotone (at a 30:1 slope) bayward of the new flood protection levees, except Reaches 2 and 3, to create transitional habitat;
4. Eight former salt ponds restored to tidal action through breaching fringing tidal marsh and the outer former salt pond levees to allow tidal marsh establishment in the majority of the ponds, or a subset of the ponds would remain managed pond habitat based on the outcome of the monitoring and adaptive management program; and
5. A multi-use public access trail on the top of the new flood protection levees, a new pedestrian bridge across the Union Pacific Railroad tracks and Artesian Slough, seating areas with benches and interpretive signs, and levee trails that connect to adjacent regional trails.

In January 2018, the Commission authorized Amendment No. One, which included: constructing 0.81 miles of a flood risk reduction levee (Reach 1) between Alviso Marina County Park and the Union Pacific Railroad to a height of 15.7 feet NAVD 88 (settled height of 15.2 feet), with an inland slope of 3:1 (horizontal to vertical) and bayward ecotone habitat with a slope of approximately 30:1, and associated construction activities, including dewatering Ponds A12 and A18 to allow stockpiling of soil and sediment needed for levee construction. Soil stockpiling and construction and anticipated to begin this spring.

Note to Recommendation

Because the project is the subject of a material amendment to an existing Commission Letter of Agreement, the format of the recommendation is different from recommendations for new applications. This recommendation includes language of the existing permit and the changes specific to the subject material amendment. Any deleted existing permit language is

~~struck through~~; added or new language is underlined. Existing language neither struck through nor underlined remains unchanged with the adoption of Material Amendment No. Two.

Staff Recommendation

The staff recommends that the Commission adopt the following resolution:

I. Consistency Determination Agreement

- A. **Plan Found to Be Consistent.** The San Francisco Bay Conservation and Development Commission (Commission) concurs, as conditioned herein, ~~agrees~~ with the USACE's and the USFWS's determination that the ~~following~~ conceptual plan for improving flood protection in northern Santa Clara County from the San Jose Pollution Prevention Facility to the community of Alviso is generally consistent, and that the construction of the Flood Risk Management Levee (levee) Reaches 1, 2, and 3 of Phase 1 of the project, as described and conditioned below, is consistent to the maximum extent practicable with the Commission's federally approved Coastal Zone Management Act, as Amended (CZMA), and the Coastal Zone Management Program for San Francisco Bay (SF Bay CZMP) (Amendment No. Two~~One~~).

In the San Francisco Bay Coastal Zone, including in the Bay, Within the 100-foot Shoreline Band, within Salt Ponds, within Managed Wetlands and other adjacent Coastal Zone Management Areas, in the City of San Jose and unincorporated areas, and within Santa Clara County (Exhibit A): The Conceptual Plan resulting from the South San Francisco Bay Shoreline Phase 1 Feasibility Study, proposes 3.8 miles of flood protection levee, a 30:1 sloped ecotone on much of the new bayward flood protection levee face, public access on top of the new levee with a pedestrian bridge over the Union Pacific railroad track and a pedestrian bridge over Artesian Slough, spur trails and overlooks to various points in the outer ponds, and breaching levees, dredging pilot channels, filling in borrow ditches, installing ditch blocks, and other restoration activities (Exhibit B).

Specifically, the Commission concurs with the USACE and USFWS that the activities authorized and conditioned herein by Amendment Nos. One and Two to this consistency determination located in the Coastal Zone, including Bay, Salt Pond and Shoreline Band jurisdictions, are consistent to the maximum extent practicable with the CZMA and SF Bay CZMP:

1. Constructing ~~1.750-81~~ miles of a flood risk reduction levee (levee) (Reaches 1, 2 and 3) to a height of 15.7 (15.2 settled height) feet NAVD88 with a crest width of 16 feet and an inland slope of 3:1 (horizontal to vertical) and (Amendment No. Two~~One~~); by:
 - a. Excavating existing Pond A12 berms and soils in the Reach 1 levee alignment and placing, sculpting and compacting approximately 160,000 cubic yards (cy) of offsite fill between Alviso Marina County Park and the Union Pacific Railroad (Amendment No. Two);

- b. Excavating existing Pond A16 berms and soils in the Reach 2 and 3 levee alignment and placing, sculpting and compacting approximately 363,000 cy of imported fill between the Union Pacific Railroad (railroad) and Artesian Slough (Amendment No. Two); and
 - c. Placing 34,000 cy of rip rap topped with a minimum of 18-inch thick (approximately 6,300 cy) of top soil along the northern slope of the levee Reach 2 and 3 for erosion prevention, and install either high performance turf reinforcement mat or galvanized chain-linked fencing on the surface of the south slope for rodent protection (Amendment No. Two).
- 2. Constructing a transitional ecotone habitat by placing 850,000 cy of fill on the bayward side of the Reach 1 levee with a slope of approximately 30:1 (horizontal to vertical) (Amendment No. One);
- 3. Dewatering Ponds A12 and A18, constructing soil containment berms or sheetpile soil containment walls within salt ponds to stockpile construction soils;
- 4. Dewatering Pond A16 by constructing a temporary berm using 27,000 cy of onsite fill (Amendment No. Two);
- 54. Stockpiling of soils in Ponds A12 and A13 (a 34.3-acre portion of ecotone footprint) and Pond A18 (a 6.51-acre portion of ecotone footprint) (Amendment No. One);
~~and~~
- 65. Constructing and using staging areas located adjacent to the project site (Amendment No. One);
- 7. Constructing a temporary railroad crossing between Reach 1 and Reach 2 of the levee that includes two asphalt paved ramps (8-inch thick aggregate base and 12-inch thick asphalt), one down from and the other up to the levee crest, each with a 1:20 slope and a concrete pad placed adjacent to and in between the railroad tracks (Amendment No Two);
- 8. Once the Reach 1,2, and 3 levee construction is complete (2022), constructing a manually-operated, approximately 8-foot high by 40 to 110-feet wide flood gate between Reach 1 and Reach 2 of the levee, to be closed during storm or coastal flooding episodes (Amendment No. Two);
- 9. Installing a water control structure through Reach 3 of the levee connecting Pond A16 to New Chicago Marsh to provide water during the summer months to this non-tidal salt marsh. The water control structure consists of a reinforced, concrete gated intake, an approximately 100-foot long, 48-inch diameter reinforced concrete pipe and concrete outlet apron, a galvanized steel grating walkway, and guard rails (Amendment No. Two);

10. Constructing and maintaining on-site public access features, including:

- a. a 500-foot long, 12-foot wide, grade separated trail to replace an existing trail at the Alviso Marina County Park, adjacent to Reach 1 of the levee, through placement of an additional 500 cubic yards of soil over 3,000 square feet of existing tidal marsh within the previously authorized levee footprint (Amendment No. Two);
- b. a 12-foot wide American with Disabilities Act (ADA) compliant trail, with two, 2-foot wide crushed aggregate running along the crest of Reaches 1, 2, and 3 of the levee (Amendment No. Two);
- c. a 640-to 970-foot long ADA compliant pedestrian bridge connecting the trail from Reach 1 to Reach 2 of the levee, with running slopes not steeper than 1:12 (vertical to horizontal) and a 5-foot landing for every 2.5 feet of rise or running slopes, not steeper than 1:20 (vertical to horizontal) (Amendment No. Two); and

11. Conducting routine, in-kind repair and maintenance of the above authorized project features in perpetuity, or until such time responsibility of the project or specific features are transferred to another entity, likely the Santa Clara Valley Water District (Amendment No. Two).

- B. Date Consistency Concurrence was Submitted.** The original conceptual concurrence is generally pursuant to and limited by the request for consistency concurrence dated September 2015 and received in the Commission's office on October 30, 2015. The concurrence for Amendment No. One is generally pursuant to and limited by the request for consistency dated August 31, 2017 and supplemental information dated November 20, 2017, received in this office on November 27, 2017, including all accompanying and subsequently submitted exhibits and correspondence. The concurrence for Amendment No. Two is generally pursuant to and limited by the request for consistency dated February 2, 2019, including all accompanying and subsequently submitted exhibits and correspondence. ~~*This concurrence is for the Conceptual Plan for the South San Francisco Bay Shoreline Project (Shoreline Project) and construction of Reach 1 levee and transitional ecotone habitat only of this phased consistency determination.*~~ **Before any work can occur on this project, the project partners shall submit obtain all necessary permits** (Amendment No. Two~~One~~).
- C. Consistency Concurrence Expiration Date.** Work authorized herein by Amendment Nos. One and Two must commence prior to December 31, 2021, or this consistency determination will lapse and become null and void. Such work must also be diligently pursued to completion, and be completed by December 31, 2032~~2024~~ unless an extension of time is granted by amendment of the consistency determination. All maintenance activities included in this Letter of Agreement may be conducted in perpetuity so long as the development remains in place (Amendment No. Two~~One~~).

- D. **Summary of Work Found to be Consistent.** The Shoreline Project found to be generally consistent with the Commission's federally authorized coastal management program is the ***conceptual plan*** arising from the South San Francisco Bay Shoreline Phase 1 Feasibility Study. That plan proposes constructing 3.8 miles (19,776 feet) of levees to replace existing salt pond berms along the most landward edge of former salt ponds, installing a flood gate at the Union Pacific railroad tracks, installing a tide gate at Artesian Slough, constructing an approximately 345-foot-wide ecotone (at a 30:1 (Horizontal to Vertical slope) bayward of the new flood protection levee adjacent to former salt ponds A12, A13 and A18, (Amendment No. One) to create transitional habitat and provide additional flood protection, installing ditch blocks, excavating pilot channels through fringing tidal marsh, breaching outer levees to allow tidal marsh and lowering 80% of the outer berms of these former salt ponds, constructing a multiuse public access trail on the top of the new flood protection levees, constructing new pedestrian bridges across the Union Pacific Railroad tracks and Artesian Slough, installing seating areas with benches and interpretive signs, and connecting the levee trail to adjacent trails.

Further, the Commission finds construction of the 1.75 miles of levee Reaches 1, 2, and 3 levee and transitional ecotone habitat adjacent to and within former salt pond A12 and A13; as described in the authorization section and application materials, construction of stockpiling areas; stockpiling soils in the ecotone footprint of Ponds A12, A13 and A18; and construction and use of staging areas; a pedestrian overpass; 1.75 miles of trail; temporary rail crossing; flood gate at the rail crossing; and water control structure and pipe between Pond A16 and New Chicago Marsh, as conditioned herein to be consistent to the maximum extent practical with the CZMA, and San Francisco Bay CZMP, including the McAteer Petris Act and the San Francisco Bay Plan (Bay Plan) (Amendment No. Two One).

II. Special Conditions

The Letter of Agreement made herein shall be subject to the following special conditions, in addition to the standard conditions in Part IV. If the USACE and USFWS do not agree with the following conditions or fail to incorporate them into the project, the USACE and USFWS shall notify the Commission immediately of their refusal to agree or to incorporate the conditions into the project and the conditional concurrence shall be converted into an objection. The USACE and USFWS shall also immediately notify the Commission if the USACE and USFWS determine to go forward with the project despite the Commission's objection (Amendment No. One).

- A. **Construction Document(s).** The Reach 1 levee, public access trail, and ancillary improvements authorized herein by Amendment No. One shall be built generally in conformance with the following document: "Santa Clara County, California South San Francisco Bay Shoreline Reach 1 – STA 0+00 to 41+92" 90% Design prepared by the US Army Corps of Engineers and HDR Engineering Inc., dated 3 November 2017.

Levee Reaches 2 and 3 and the associated public access trail, pedestrian bridge, water control structure, flood gate, and temporary railroad crossing authorized by Amendment No. Two shall be built generally in conformance with the following document: "SANTA CLARA COUNTY, CALIFORNIA SOUTH SAN FRANCISCO BAY SHORELINE REACH 2 AND 3," dated January 2019 (60% Design) prepared by the US Army Corps of Engineers, and the Memorandum dated February 5, 2019, SUBJECT: "Sixty Percent Progress Submittal for the South San Francisco Bay Shoreline Project, Reach 2 and 3 (District Quality Control)" (Amendment No. Two).

The USACE and the USFWS are responsible for assuring that all construction documents accurately and fully reflect the terms and conditions of this amended Letter of Agreement and any legal instruments submitted pursuant to this amended authorization. No substantial changes shall be made to these documents without prior review and written approval by or on behalf of the Commission through plan review or a permit amendment (Amendment No. One).

- B. **Construction Document(s) Review and Approval.** No work whatsoever shall commence pursuant to this amended Letter of Agreement until final construction documents regarding authorized activities are approved in writing by or on behalf of the Commission. All documents will be ~~are~~ reviewed within 45 days of receipt. To save time, preliminary documents may be submitted prior to the submittal of final documents. If final construction document review is not completed by or on behalf of the Commission within the 45-day period, the USACE and USFWS may carry out the project authorized herein in a manner consistent with the plans referred to in Special Condition II-A of this amended Letter of Agreement (Amendment No. One).
 1. **Plan Details.** All design and construction documents shall be labeled with: the Mean High Water line or the upland extent of marsh vegetation no higher than +5 feet above Mean Sea Level and the tidal datum reference (NAVD88 or, if appropriate, Mean Lower Low Water (MLLW)); the corresponding 100-foot shoreline band; property lines; horizontal control benchmarks, the location, types, and dimensions of materials, structures, and project phases authorized herein; grading limits; and the boundaries of public access areas and view corridor(s) required herein. Documents for shoreline protection projects must be dated and signed by the professional of record and include the preparer's certification of project safety and contact information. No substantial changes shall be made to these documents without prior review and written approval by or on behalf of the Commission through plan review or a permit amendment (Amendment No. One).
 2. **Conformity with Final Approved Documents.** All authorized improvements and uses shall conform to the final approved documents. Prior to use of the facilities authorized herein, the appropriate professional(s) of record shall certify in writing that the work covered by the authorization has been implemented in accordance with the approved criteria and in substantial conformance with the approved documents. No substantial changes shall be made to these documents without prior review and written approval by or on behalf of the Commission through plan review or a permit amendment (Amendment No. One).

3. **Discrepancies between Approved Plans and Special Conditions.** In case of a discrepancy between final approved documents and the special conditions of this amended Letter of Agreement or legal instruments, the special condition shall prevail (Amendment No. One).
 4. **Reconsideration of Plan Review.** The USACE and/or USFWS may request reconsideration of a plan review action taken pursuant to this special condition within 30 days of a plan review action by submitting a written request for reconsideration to the Commission's Executive Director. Following the Executive Director's receipt of such a request, the Executive Director shall respond to the USACE and USFWS with a determination on whether the plan review action in question shall remain unchanged or an additional review and/or action shall be performed by or on behalf of the Commission, including, but not limited to, an amendment to the amended Letter of Agreement (Amendment No. One).
 5. **As Built Plans.** Within 120 days of completed construction of project elements authorized herein, the USACE and USFWS shall submit to the Commission one signed and stamped copy of the "as built plans" for that component of the project (Amendment No. One).
- C. **Valid Title.** At least 30 days prior to initiating any construction activities of each levee reach, including construction staging, the USACE and USFWS shall provide documentation that sufficient property interest has been obtained, such as grant deeds, easements, or permits, to Commission staff for review and legal verification that all necessary property has been obtained. Once Commission staff will review the documents and notify the USACE and USFWS that construction activities can proceed with 30 days of receipt. If the property interest~~final construction~~ document review is not completed by or on behalf of the Commission within the 30-day period, the USACE and USFWS may carry out the project as authorized (Amendment No. One).
- D. **Construction and Stockpiling Activities.** As the USACE, the USFWS, and their contractors proceed with staging area, levee, and ecotone construction, and stockpiling activities they shall incorporate the following measures and best management practices:
1. **Notice to and Certification of Contractor Review.** The USACE and USFWS shall provide a copy of this Letter of Agreement to any contractor or person working with them to implement the activities authorized herein for review and compliance. Prior to commencing any grading, demolition, or construction, the contractor or contractors in charge of that portion of the work shall submit written certification that s/he has reviewed and understands the requirements of the Letter of Agreement and the final BCDC-approved plans, particularly as they pertain to any environmentally sensitive areas, public access or open space required herein (Amendment No. One).

2. **Horizontal Control Points.** The USACE and USFWS shall include on plans required by Special Condition II-A and B and install a minimum of ~~eight~~^{four} permanent horizontal control points (survey benchmarks), four along the Reach 1 alignment and four along the Reaches 2 and 3 alignment (Amendment No. Two). These control points shall be placed under the supervision of a registered civil engineer or land surveyor, and shall be accurately located and mapped in relation to each other, to the closest known existing control point or other acceptable fixed point in the project area, and to the limits of any proposed fill in the Bay and salt ponds. These control points shall be located so as to facilitate field checking, with simple equipment, of the limits of the fill authorized pursuant to this authorization. Such fill limits shall be dimensioned from these control points, or, if the scale of the drawing is adequate, it shall carry a note stating that field dimensions may be scaled from the drawing and the accuracy of such scaling. The control point locations shall be clearly shown on all plans submitted pursuant to Special Condition II-A and II-B (Amendment No. One).
3. **Dewatering Plan and Activities.** The USACE and USFWS shall develop and submit, a minimum of 30 days prior to initiation of construction, a dewatering plan for the construction site, including the levee and stockpile areas that would minimize mudding of waters, scour of soils/sediment, and water flow including on the project site, and in adjacent tidal sloughs and other water features. The Commission staff shall review and approve the Dewatering Plan prior to initiation of dewatering activities, and within 30 days of submittal, or the dewatering activities can proceed as approved by the Water Board (Amendment No. One).
4. **Construction of Stockpile Areas.** The USACE and USFWS shall in constructing stockpiling areas, minimize disturbance to wildlife and existing habitat, through use of best management practices and noise reduction methods. For example, if sheetpiles are driven, the contractor should use a vibratory installation method if feasible (Amendment No. One).
5. **Suitability of Offsite Soils.** The USACE and USFWS shall ensure that any upland soils imported to the site are suitable for use via implementation of a Quality Assurance Project Plan (QAPP) consistent with the requirements of, and approved by the San Francisco Bay Regional Water Quality Control Board's (Water Board) Executive Officer. The USACE and USFWS shall provide a copy of the approved QAPP to the Commission for its records (Amendment No. One).

In addition, any sediment dredged or excavated from riverine or Bay sources for use on site shall meet the Water Board's sediment quality requirements contained in the staff report entitled, "Beneficial Reuse of Dredged Materials: Sediment Screening and Testing Guidelines, dated May 2000, or if revised, the most current guidelines available at that time, and consistent with the Water Board Order R2-2017-0049 (Amendment No. One).

If soils or sediment are proposed for import to the site for construction, the USACE and USFWS shall provide a copy of the characterization report to Commission staff concurrently with submission to the Water Board a minimum of 30 days prior to soil/sediment placement for review and approval (Amendment No. One).

6. **Control of Stockpiled Soils.** To prevent base failure, “shoving” or “mudwaves” resulting from overburdening the soft Bay muds in the stockpiling areas, the USACE and USFWS shall limit initial stockpiling to 7 feet NAVD88, in an area offset from the toe of new levee alignment by 15 feet, and be 35 feet in width. Further, as additional soil is added to the stockpile, the leading edge (bayward) of the stockpile shall have a side slope not greater than 10:1; no side slope shall be greater than 5:1, and the stockpile shall not exceed 15 feet NAVD88 at any time. The USACE and USFWS shall regularly monitor the stockpile and existing former salt pond soils for changes that would indicate unstable subsurface or surface soils/sediment are mobilizing (Amendment No. One).
7. **Stockpile Episode Completion.** As each episode of stockpiling is complete, the USACE and USFWS shall: (1) track-walk the side slope of the pile parallel to the direction of the slope to compact the edges; (2) hydroseed the soil with native grasses; and (3) install and stake appropriate amounts of straw wattle perpendicular to the slope to prevent erosion or soil migration into other areas (Amendment No. One).
8. **Debris Removal and Best Management Practices.** All construction operations shall be performed to prevent construction materials from falling into the Bay or former salt ponds and managed wetlands. In the event that such material escapes or is placed in an area subject to tidal action of the Bay, the permittee shall immediately retrieve and remove such material at their expense (Amendment No. One).

All construction debris and any uncovered debris, specifically treated wood, and more generally debris such as concrete, asphalt, wood, plastics, etc., shall be removed from the project site for proper disposal outside of the Commission’s jurisdiction. Excavated debris may be temporarily stored within the Commission’s jurisdiction, provided measures are employed to assure that material does not wash or erode into the surrounding former salt ponds, marsh or waterways. In the event that any such material is placed in any area within the Commission’s jurisdiction for an extended period (i.e. more than 60 days), the USACE and USFWS, or the owner of the improvements, shall remove such material, at their expense, within ten days after they have been notified by the Executive Director of such placement (Amendment No. One).

- ~~910~~ **Completion of Construction Activities.** Within 90 days of completion of the levee and ecotone construction, the USACE and USFWS shall remove construction equipment, such as sheetpiles and dewatering structures from the Commission’s jurisdiction (Amendment No. One).

- E. **Public Access.** By December 31, ~~2021~~2020, the USACE and USFWS shall install 0.81 miles of a 12-foot wide, an ADA accessible trail ~~surface~~ with two, 2-foot wide shoulders, atop the Reach 1 levee, connecting the Alviso Marina County Park to the northern extent of the levee, at approximately Station 42+00, as generally shown on Exhibit C. By December 31, 2022, the USACE and the USFWS shall install an additional 0.95 miles of trail, as described for Reach 1 and meeting the same standards, atop the Reaches 2 and 3 levee, connected to Reach 1 via a pedestrian bridge over the Union Pacific Railroad and extending eastward to Artesian Slough (Amendment No. Two)

The USFWS shall maintain the ~~1.75~~0.81-mile long levee trail, but not the pedestrian bridge, as part of the Shoreline Project, in perpetuity, or such time that the levee reconstructed, or amendment to this amended Letter of Agreement. Such maintenance shall include, but through further amendment is not limited to, repairs to all path surfaces; replacement of any trees or other plant materials that die or become unkempt; repairs or replacement as needed of any public access amenities such as signs, benches, and trash containers; periodic cleanup of litter and other materials deposited within the access areas; removal of any encroachments into the access areas; and assurance that the public access signs remain in place and visible. Within 30 days after notification by Commission staff, the USWFS shall correct any maintenance deficiency noted in a staff inspection of the site (Amendment No. TwoOne).

1. **Temporary Closures.** During construction of additional levee sections or other project features, the public access ~~will~~may require temporary closures. ~~When~~if such closures are necessary, the USACE and USFWS shall notify the Commission staff of the closure 15 days before its occurrence, duration of closure, and, if feasible, any potential detours that would allow for alternate public access (Amendment No. One). Further, during construction of levee sections that require temporary closures, the USACE and the USFWS shall follow the processes described in the previously submitted and approved Memorandum entitled "Plan for Public Access to Alviso Marina County Park and USFWS trails during construction activities in Shoreline Reach 1," or if further revised, the current, approved public access management plan (Amendment No. Two).

To minimize temporary construction impacts on public access to, and recreational use of, project areas, the USACE and USFWS shall minimize access restrictions during construction to specific areas surrounding the construction activities, and limit such restrictions to the minimum period necessary. Once the construction activities for individual project features are complete, the corresponding public access area(s) shall be restored to pre-construction conditions (Amendment No. Two).

2. **Reasonable Rules and Restrictions.** The USFWS may impose reasonable rules and restrictions for the use of the public access facilities authorized herein to correct specific problems that may arise. Such limitations, rules, and restrictions shall have first been approved by or on behalf of the Commission upon a finding that the proposed rules would not significantly affect the public nature of the area, would not unduly interfere with reasonable public use of the public access areas, and

would tend to correct a specific problem that the USFWS has both identified and substantiated. Rules may include restricting hours of use and delineating appropriate behavior (Amendment No. Two).

3. **Protection of Nesting Areas.** If public access trails are immediately adjacent to sensitive nesting habitat for native and listed species, such as the western snowy plover or the least tern, that section of the trail shall include interpretive signage regarding the habitat sensitivities. If the USFWS determines that it is necessary to close that portion of the trail for the nesting season, it shall notify the Commission of the determination, and provide the expected duration of the closure, and the species of concern. Once notification has occurred, the USFWS shall post notice of the closure for the public and close the trail during the nesting and rearing season. Once the rearing season is over the trail shall be reopened for the public (Amendment No. Two).

- F. **Habitat and Wildlife Protections.** In accord with the Commission's natural resource policies, the USACE and USFWS shall implement the following measures and best management practices to avoid and minimize impacts to existing habitat, native and listed species, specifically, but not limited to Ridgway's rails, salt marsh harvest mice, snowy plovers, black rails, burrowing owls, least terns, salmonids, and longfin smelt (Amendment No. One).
 1. **Employee Education Training.** Prior to beginning construction, all construction and other staff that will be on site (and subsequently any new employees), shall be trained in avoidance and minimization measures to protect habitat and native species that may be present on site, and specifically threatened and endangered species protocols per the USFWS and California Department of Fish and Wildlife (CDFW) (Amendment No. One).
 2. **Biological Monitor.** Per the USFWS biological opinion, a USFWS/CDFW approved biological monitor shall be on site and present at the site of the work activity when listed species may be present either in the work area or adjacent area. This biological monitor shall have the authority to stop work if the work activity has potential to harm listed species (Amendment No. One).
 3. **Marsh and Upland Plant Protection During Construction.** The work authorized by this Letter of Agreement shall be performed in a manner that will prevent, avoid, or minimize to the extent possible any significant adverse impact on any tidal marsh; other sensitive wetland resources; and existing native vegetation. If any unforeseen adverse impacts occur to any such areas as a result of the activities authorized herein, the permittee shall restore the area to its previous condition, including returning the disturbed area to its original elevation and soil composition. If the area does not revegetate to its former condition within one year, the permittee shall seed or plant, as appropriate, all disturbed areas with appropriate vegetation consistent with plans approved by or on behalf of the Commission. The permittee shall employ

measures to minimize impacts to wetland areas, such as: (1) minimizing all traffic in marsh/mudflat areas; and (2) carefully removing, storing, and replacing wetland vegetation that has been removed or “peeled back” from construction areas as soon as possible following construction (Amendment No. One).

- a. **Limits on Marsh Activity.** When a construction or maintenance activity would take place within or adjacent to tidal marsh, the activity shall not occur within two hours (before or after) a tide of 6.5 feet or greater when the marsh plain is inundated to allow species (salt marsh harvest mice, wandering shrew, Ridgways’ and black rails) to move to protective cover (Amendment No. One).
4. **Former Salt Ponds.** Existing habitat and nesting areas occurs within the former salt ponds A12, A13, and A18. ~~during this first phase of the project, existing habitat and nesting areas occur within these ponds.~~ Therefore, impacts to these ponds from construction and stockpiling shall be minimized to the extent feasible through best management practices and minimizing the footprint traversed outside of project features (Amendment No. ~~Two~~One).
5. **Protection of Ridgway’s Rail.** To protect this listed species from harm or harassment due to construction and maintenance activities, any work that may occur within 700 feet of existing tidal marsh, shall be limited to September 1st through January 31st of any year. Exceptions to this condition may be approved based on findings of a USFWS protocol survey, concurrence from the USFWS, and review and approval by Commission staff. All other avoidance, minimization, and conservation measures described in the application and USFWS’ biological opinion, dated April 27, 2015, for Ridgway’s Rail shall be implemented during project construction and maintenance (Amendment No. One)
6. **Protect of Least Tern, and Snowy Plovers, and Burrowing Owls.** No construction or maintenance activities shall occur within 600 feet of an active snowy plover nest and within 300 feet of an active least tern or burrowing owl nest (Amendment No. ~~Two~~One).
7. **Salt Marsh Harvest Mouse.** Under the supervision of the biological monitor, three weeks prior to any construction activity in suitable salt marsh harvest mouse habitat, vegetation and woody debris shall be removed using hand tools only as described in the application and USFWS’ biological opinion. The removal of vegetation shall be limited to the minimum amount necessary to accomplish the construction action, and adjacent habitat shall remain intact to the extent feasible. Once the vegetation is removed, exclusion fencing shall be installed to limit return of the mice to the construction area. Individual mice shall be allowed to move to vegetated areas unharassed by human intervention due to their fully protected status when located on non-federal lands (Amendment No. One).
8. **Protection of Native and Listed Fish.** The project and surrounding area provide habitat for native and listed fish species. The following measures shall be implemented to protect these species during construction activities as appropriate:

- a. **Use of Fish Screens.** In the event that dewatering activities occur in areas that salmonids or other listed fish, such as longfin smelt may be present, the intake pumps shall be appropriately screened to according to the National Marine Fisheries Service (NMFS) and CDFW criteria for juvenile salmonids and/or longfin smelt (Amendment No. One).
 - b. **In-Water Work.** Any construction or restoration activities that would occur in tidal waters shall be limited to June 1st through November 30th of any year to protect listed salmonids that may be present (Amendment No. One).
9. **Ecotone Habitat.** A minimum of six months prior to completion of construction of ecotone habitat in former salt ponds A12 and A13, the USACE and USFWS shall provide an ecotone habitat planting plan to the Commission staff for review and approval. The ecotone planting plan shall include at a minimum, the target habitat features for distinct ecotone habitat (i.e., low, mid, and high marsh, swales, and alkali meadow), square footage/acreage of each habitat type, types and number of plants proposed for each area (or hydroseeding), irrigation method and frequency, and other pertinent information. This document should also include anticipated success of proposed planting techniques, and any adaptive measures, such as replacement planting or other measures to ensure habitat development (Amendment No. One)
10. **Control of Invasive Species.** The construction activities have the potential to spread invasive species, particularly non-native pepperweed and cordgrass, and other noxious weeds. Therefore, the USACE and USFWS shall take precautions to limit potential vectors through management of construction equipment (i.e., cleaning vehicles and equipment of vegetation, seeds, and soil prior to entering the work site). The levee and ecotone shall be monitored for colonization of star thistle and invasive pepperweed and controlled through hand weeding and spraying of an appropriate herbicide when necessary, at ebb-tide, as the tide is receding to be protective of other plants and in accordance with in the USFWS' biological opinion following the conservation measures specific to protection of the Ridgway's rail. (Amendment No. One).

Further, the USFWS shall develop a non-native predator management plan to address potential loss of species due to feral cats and other invasive species (Amendment No. One).

G11. **Monitoring and Adaptive Management.** The USACE and USFWS shall monitor the levee and ecotone habitat as proposed in the Monitoring and Adaptive Management Plan for the initial ten years after construction and subsequent breaching of each set of ponds. In addition, the USFWS shall work with the SCVWD and Conservancy to develop a more in-depth monitoring program that would continue after the initial ten-year monitoring period has been completed. This monitoring program is anticipated to be similar to and potentially incorporated into the South Bay Salt Pond Restoration

Project's monitoring program. This more comprehensive monitoring program shall be provided to the Commission staff for review and approval six months prior to the completion of the construction of the transitional ecotone habitat in former salt pond A12 (Amendment No. One).

1. **Marsh Restoration.** In the event that the monitoring and adaptive management of Ponds A12, and A18 or Ponds A9, A10, and A11, indicates that restoration of additional ponds would be harmful to resident or migratory wildlife, sediment transport, or water quality, the USACE, USFWS, SCVWD, and the SCC shall provide a report and brief the Commission. The report shall include the monitoring findings and proposed modifications to the project for review and consideration. Should the Commission decide that the proposed modifications are appropriate, the USACE and USFWS shall request an amendment to this amended Letter of Agreement (Amendment No. Two).
12. **Monitoring Reports.** Once the monitoring program has been approved, monitoring reports on the project shall be provided to Commission staff for review and comment. Reports shall be due on November 30th biannually, beginning in the second year following completion of the ecotone construction (Amendment No. One).

H6. Water Quality Protection. The USACE and USFWS shall ensure that project construction and operations are protective of Bay, ~~and~~ former salt pond, and New Chicago Marsh water quality, and is in compliance with the Water Board's Water Quality Certification and Waste Discharge Requirements Order R2-2017-0049 issued for the project on December 13, 2017.

1. The USACE and USFWS shall prepare and submit a hazardous materials management and fuel spill containment plan for implementation by all construction and maintenance contractor, which will reduce the risk of contamination due to fuel or other hazardous material used on site. The contents of this plan shall include items a through f delineated on pages 69 and 70 of the consistency determination request for Amendment No. One application materials. Further, this plan shall be provided to the biological monitor for his/her use in protecting habitat and species on site. The hazardous materials management and fuel containment plan shall be provided to the Commission a minimum of 30 days prior to initiating construction, and a copy of the plan shall be kept on site in an easily accessible and visible location for reference by contractors and their staff (Amendment No. One).
2. **Storm Water Management.** The USACE and USFWS shall develop and provide to Commission staff a storm water management plan that describes how the construction site would be managed such that erosion and mobilization of soils and sediment are not occurring mobilized during rainstorms or other flood events (Amendment No. One).

3. **Use of Herbicides.** In the event that herbicides are used to control non-native vegetation, the herbicides use shall be appropriate to the site conditions where they would be applied. They shall be the minimum necessary and those that would cause the least harmful effects to non-target vegetation (Amendment No. One).
4. **Summer Water Flow.** During construction activities and in perpetuity, the USFWS and USACE shall continue to provide warm weather flow of water from Pond A16 into New Chicago Marsh sufficient to maintain or improve habitat quality therein (Amendment No. Two).

~~I.H. **Commission Jurisdiction Over Fill Area.** Notice is hereby given that, under the McAteer-Petris Act, the area of the approved project that is within the Commission's jurisdiction under Section 66610(a) and the San Francisco Bay Coastal Zone remains within that jurisdiction even after fill or substantial change in use, authorized by the Commission, may have changed the character of the area; so that the permittee(s) or the permittee's successors in interest will require further action by or on behalf of the Commission prior to any future change of use or work within areas filled pursuant to this authorization (Amendment No. TwoOne).~~

~~J. **Hold Harmless and Indemnify.** The permittee shall hold harmless and indemnify the Commission, all Commission members, Commission employees, and agents of the Commission from any and all claims, demands, losses, lawsuits, and judgments accruing or resulting to any person, firm, corporation, governmental entity, or other entity who alleges injuries or damages caused by work performed in accordance with the terms and conditions of this permit. This condition shall also apply to any damage caused by flooding of or damage to property that is alleged to be caused as a result of some action or lack of action by the Commission growing out of the processing of and issuance of this permit (Amendment No. One).~~

III. Findings and Declarations

This consistency concurrence is given on the basis of the Commission's findings and declarations that the conceptual plan arising from the South San Francisco Bay Shoreline Phase 1 Feasibility Study is **generally consistent**; and that the activities authorized by Amendment No. One and Two are consistent to the maximum extent practical with the Commission's amended Coastal Zone Management Program for San Francisco Bay, including the McAteer Petris Act and the San Francisco Bay Plan for the following reasons:

- A. **Phased Consistency Determination.** On December 17, 2015, the Commission concurred with USACE's phased consistency determination based on its feasibility study for the Shoreline Project. The original 2015 consistency determination, however, did not authorize or evaluate any construction elements of the project, limiting the review to the conceptual plan. The original consistency concurrence was limited to finding that the conceptual plan arising from the South San Francisco Bay Shoreline Phase 1 Feasibility Study is consistent to the maximum extent practicable with the Commission's Amended Management Program for San Francisco Bay.

In August 2017, the USACE and USFWS provided a consistency determination to the Commission for consideration of construction of the Reach 1 of the flood risk management levee, the adjacent transitional ecotone habitat, constructing using staging areas, and stockpiling soil for the project. Amendment No. One authorized~~s~~ this work, but did not authorize additional construction, as there were not sufficient plans or specifications of other features such that they could be reviewed for consistency with the San Francisco Bay CZMP ~~future authorization is necessary for additional portions of this project~~ (Amendment No. ~~Two~~One). For the Commission to be able to evaluate and concur that these future actions are consistent with the Commission's Amended Management Program for San Francisco Bay, the USACE will need to provide information that includes, but may not be limited to:

1. Design details and proposed fill amounts for all improvements, including levee and ecotone dimensions, tide gates, starter channels, ditch blocks and other restoration work;
 2. Permit applications from state, local government or other partners for ongoing project responsibilities, such as maintaining public access areas and improvements, monitoring restoration success, and adaptive management;
 3. Design details for public access trails, bridges, interpretive facilities, signage, benches and other public access improvements;
 4. Ecotone design and management plans to maximize flood protection benefits, habitat functions, visual appeal, and the distribution of earthen material, if less material than needed to create a 30:1 (horizontal to vertical) slope is obtained;
 5. A monitoring program that provides sufficient information for effective adaptive management and proactive adjustments in project design to avoid or prevent problems;
 6. A planting and vegetation management program to promote the establishment of desired native vegetation and discourage the establishment of invasive plant species;
 7. How the flood protection levee could be adapted to respond to sea level rise beyond the "50-year period of analysis" with sections showing projected sea level rise on the ecotone and levee;
 8. Proof of ownership and sufficient property interest in lands where construction would occur;
 9. Measures employed to reduce the methylation of mercury as a result of project activities, monitor the presence, bioavailability and biological uptake of methyl-ated mercury, and manage mercury should mercury methylation problems arise; and
 10. The number and content of future consistency determinations to be submitted as part of this phased consistency determination.
- B. **Fill.** Most of the fill proposed for the Shoreline Project described in the plan would involve fill in salt ponds or in managed wetlands, the Bay, and 100-foot Shoreline Band, all part of the San Francisco Bay Coastal Zone. Specifically, the tide gate in Artesian

Slough would constitute Bay fill, as would the two pedestrian bridges. The fill proposed for ~~levee the Reaches 1, 2 and 3 levee~~ and the ecotone adjacent to Reach 1 would mostly involve fill in salt ponds, with a more limited fill volume occurring in the Commission's Bay and shoreline band jurisdictions (Amendment No Two).

According to Section 66605 of the McAteer-Petris Act, the Commission may allow fill in the Bay and certain waterways only when the fill meets specific requirements: (a) the public benefits from fill must clearly exceed the public detriment from the loss of water areas, and fill should be limited to water-oriented uses or minor fill for improving shoreline appearance and public access; and (b) no alternative upland location is available. The Commission may allow fill in the Bay, certain waterways, and salt ponds when: (a) the water area authorized to be filled is the minimum necessary to achieve the purpose of the fill; (b) the fill should minimize harmful effects to the Bay including the water volume, circulation, fish and wildlife resources, and marsh fertility; and (c) the fill should be authorized when the applicant has valid title to the properties in question.

The Bay Plan's policies for salt ponds state that, "if the owner of any salt ponds withdraws any of the ponds from their present uses, the public should make every effort to buy these lands and restore, enhance or convert these areas to subtidal or wetland habitat." It further states that "...opening ponds to the Bay represents a substantial opportunity to enlarge the Bay and restoring, enhancing or converting ponds can benefit fish, other aquatic organisms and wildlife, and can increase public access to the Bay...."

The Shoreline Project, when complete, would result in the placement of clean earthen material on approximately 136 acres of salt ponds to construct approximately 41.6 acres of flood protection levees and 96 acres of ecotone. Once the flood protection levee and ecotone have been constructed and the levees are breached, approximately 2,900 acres of former salt ponds would be reconnected to the Bay and returned to tidal action. Currently, under the interim management program, the USFWS manages the eight former salt ponds as managed ponds with water control structures limiting the water, sediment, and wildlife that enter and exit the ponds. After construction of the levee, the first two ponds, A12 and A18, would be breached and monitored to determine the effects of creating additional tidal marsh on the areas resident and migratory wildlife. After five years, if the effects are minimal or beneficial, the project sponsors will breach an additional three ponds, A9, A10 and A11, and similarly monitor for effects. If wildlife response is beneficial and as expected after five years, the remaining three ponds, A13, A14 and A15 would be breached. If effects at any breach phase are negative, adaptive management measures would be implemented. If necessary to support the target wildlife, it is possible that some of the managed ponds would remain as managed ponds rather than restored to tidal marsh as currently planned. In the event that some ponds would remain managed ponds, the project sponsors would brief the Commission and seek review and approval for the changes to the project as required by Special Condition II-G (Amendment No. Two).

Construction of Reach 1 levee and ecotone would result in the placement of clean soil or sediment in a portion of Ponds A12 and A13 to construct approximately 11.14 acres of flood protection levee and 30.05 acres of ecotone. ~~Reach 1 is 0.81 miles of the 3.8 miles of flood protection levee that is necessary to allow restoration of eight former salt ponds (approximately 2,900 acres) to Bay and tidal marsh habitat. Once the salt ponds are returned to tidal action, they are expected to rapidly accumulate sediment and become passively vegetated marsh through natural processes over several years.~~ The remainder of the proposed fill located within the footprint of the future Pond A18 ecotone will be used for levee and ecotone construction as the project proceeds (Amendment No. One).

Construction of levee Reaches 2 and 3 would result in the placement of clean imported soil to construct approximately 19.52 acres of levee. The northern levee slope would be covered with approximately 34,000 cy of riprap, which would then be covered with 6,300 cy of topsoil and then hydroseeded with a native seed mix. The USACE states that the riprap is necessary to protect Reaches 2 and 3 of the levee from wind wave driven erosion. Reaches 1, 2 and 3 together make up 1.75 miles of the 3.8 miles of flood protection levee (Amendment No. Two).

In constructing the levee, existing infrastructure, including the Union Pacific Railroad, must be accommodated, requiring additional fill in the Commission's CZMA jurisdiction. The Union Pacific Railroad is in the early planning phases for renovating the levee supporting the tracks, including considerations of increasing rail traffic over time. Because of this, the USACE and the USFWS cannot fully analyze or determine the appropriate size and location of the flood gate needed to complete the flood protection function of the levee, and the connection between the two proposed trail sections on Reach 1 and Reach 2 of the levee. In addition, temporary railroad crossing ramps are needed to allow trucks and equipment to transit between stockpile and construction areas. The ramps would result in placement of 5,000 cy of temporary fill, including aggregate base and asphalt for the ramp surface, and concrete blocking over the tracks (Amendment No. Two).

In addition, because of the gap between Reach 1 and Reach 2 of the levee, a coastal flood gate and pedestrian bridge is needed. While these features are only at 60 percent design, they would not be built until 2022 when the levee is complete, allowing sufficient time for further design development. As currently described the two features would result in solid and cantilevered fill. The Commission can authorize these features in concept now, revisit these features as needed when designs are further developed. The USACE and the USFWS are committed to designing features that meet sound engineering standards and minimizing fill while providing the flood protection and public benefits of the project (Amendment No. Two).

Lastly, a water control structure, consisting of a 48-inch diameter pipe, slide gate, deck and rails, and apron would be installed in Reach 3 of the levee, to replace an existing hydraulic connection to New Chicago Marsh. This connection is necessary to preserve existing endangered species habitat. In order to be compliant with the USACE levee

safety standards, according to the USACE, this feature has greater hydraulic capacity than required to keep New Chicago marsh appropriately inundated. The existing water control structure is an 18-inch diameter pipe, smaller than the 48-inch diameter proposed replacement. When discussing the size of this feature with the USACE, USACE indicated that the proposed pipe diameter is the minimum diameter allowed by USACE levee safety design guidance. The pipe size allows better construction quality control during pipe placement and backfill, affords a longer life, and affords better ability for inspection and maintenance (Amendment No. Two).

As stated in the policies cited above, the Commission can authorize fill for protecting shorelines, to create or enhance habitat, and to provide public access. Policies guiding fill in salt ponds are governed by maximizing open water, improving circulation and minimizing harmful effects as salt ponds are restored to tidal marsh or subtidal areas. The proposed fill in the Shoreline Project includes shoreline protection, enhancing and restoring habitat, and providing public access, and thus meets the McAteer Petris Act requirements for public and wildlife benefits. The Commission's policies require that all proposed fills in water-covered areas of the Commission's jurisdiction be the minimum necessary, and be designed to minimize adverse impacts on the Bay's natural resources. The alignment of the levee in Reaches 1, 2, and 3 takes advantage of the existing salt pond berm, minimizing the footprint of the levee in the open waters of the salt ponds (Amendment No. Two).

While the size and scope of the fill proposed for shoreline protection, habitat enhancement, and public access, in with this proposed project is much larger than previous projects authorized by the Commission, the Commission has authorized fill in the Bay and in salt ponds for such water-oriented uses before. Most recently, the Commission concurred with the USFWS that placing dredged material on approximately 15 acres (653,400 square feet) of tidal marsh to create habitat features designed to enhance the productivity, functioning and habitat value of the surrounding marshlands at Sonoma Creek (C2014.004) was consistent with Commission law and policies. The Commission also concurred with USFWS's determination that placing dredged materials on approximately 4.0 acres to raise pond bottoms and create marsh mounds at lower Tubbs Island (San Pablo Bay Wildlife Refuge) was consistent with the Commission's law and policies (C1993.011.01). ~~In BCDC Permit No. M2012.016 and M2014.025.01 to the California Coastal Conservancy, the Commission authorized the placement of a total of 5,000 square feet of fill in tidal marshes to create high tide refugia for the endangered Ridgway's Rail at Belmont Slough in the City of Belmont, Cooley Landing in the City of Menlo Park, and Martin Luther King Jr. Marsh, in the City of Oakland. Creating ecotone habitat has also been an important design feature in large marsh restoration projects in diked baylands that the Commission has issued consistency concurrence the U.S. Army Corps of Engineers to construct Hamilton Wetlands Restoration Project (C2004.005) in Marin County, and consistency Determination No. to USFWS for restoring Cullinan Ranch (C2005.007) just north of State Route 37 in Napa County. In BCDC 2018, the~~

Commission concurred with the USFWS that placement of approximately 900,000 cy of imported and on site fill in former salt ponds for the South Bay Salt Pond Project, Phase Two (C2017.008.00) was consistent with its Fill and Salt Ponds policies (Amendment No. Two).

As with the South San Francisco Bay Shoreline Phase 1 Feasibility Study and Conceptual Plan, these project elements were constructed to provide refugia for Bay marsh species and opportunities for marsh transgression with sea level rise (the inland retreat of tidal marsh to adjoining upland areas with sea level rise). While this portion of the project is specific to shoreline protection, the completion of the levee, flood gate, and pedestrian bridge will enable the USACE and USFWS to restore 2,900 acres of former salt ponds to tidal marsh, consistent with the Commission's Salt Pond policies (Amendment No. Two).

1. **Priority Use Designation.** The entire project area is designated on Bay Plan Map No. 7 as a wildlife refuge. While the ponds currently provide habitat for many species, the habitat value of the project site is expected to be greatly enhanced by returning tidal action to these ponds and as the ponds evolve from subtidal habitat, to intertidal mudflat, to vegetated tidal marsh. The ecotone constructed along the Bay edge of the flood protection levee is designed to provide high tide refuge for wildlife, as well as a place for marshes to transgress upland with sea level rise. The proposed restoration could not occur without construction of the flood protection levee and ancillary features to protect inland areas from tidal flooding Amendment No. Two.
2. **Alternative Upland Location.** The Shoreline Study analyzed several project alternatives, including a nonstructural alternative that did not include constructing a flood control structure. The analysis concluded that even if the community of Alviso was relocated (at much greater cost than the proposed project), San Jose's Pollution Prevention Facility would still need a levee to protect this costly and vital infrastructure from flooding.

The Shoreline Project includes importing and stockpiling soils within the ecotone footprint of Ponds A12, A13, and A18. The project partners determined that stockpiling soils would be necessary to capture available and low-cost soils produced as a byproduct of other development projects. Because the quantity of material needed both for the levee and the ecotone construction is large, the ability to gather and hold materials within the project site is paramount to successfully constructing the desired habitat features. The project partners conducted an analysis of potential available nearby sites appropriately sized for stockpiling and found that stockpiling within the proposed ecotone would reduce hauling costs, create construction efficiencies and reduce truck traffic and corresponding air pollution attributed to moving large quantities of soil. Further, because the stockpiling areas are limited to the area that would become the transitional ecotone habitat, this temporary use would not impact additional areas within the project site (Amendment No. TwoOne).

3. **Minimum Amount Necessary.** The 563,300 cy of imported amount of fill necessary for the construction of levee Reaches 1, 2, and 3 alone (30.1 acres) was determined by evaluating the local topography and USACE criteria in the engineering standards necessary to build an approximately 15.2-foot high, stable barrier to withstand a hundred-year storm event with ~~high~~medium range projected sea level rise over the next 50 years (Amendment No. ~~Two~~One).

The appropriate size of transitional ecotone habitat (Reach 1 of the levee) that would provide upland refugia both now and over the 50-year project period and hence the amount of fill needed to construct the ecotone, is more subjective. In nature, ecotones vary widely in size, from a few feet to many thousands of feet. The project partners chose a 30:1 sloped ecotone with a corresponding maximum width of 345 feet. This equates to approximately 0.05 percent of the acreage of the first two restored ponds (A12 and A18) that would be returned to tidal action upon breaching.

The ecotone is designed to transition from wider to narrower bands for a number of reasons, including habitat diversity, the lack of transitional habitat in the South Bay, the need to create room for Bay marshes to transgress landward with sea level rise, and the flood control benefits provided by a wider, relatively gentle bayward facing slope. Some ecologists have recommended as much as 100:1 (horizontal to vertical) ecotone slope for this project, however, the ability to obtain appropriate fill material and the cost of project construction has limited the proposed ecotone to 30:1 slope. The Bay Plan Tidal Marsh and Tidal Flats and Climate Change policies support the construction of transitional habitat. The Reach 1 levee and ecotone combined would fill approximately 54.71 acres of former salt pond, creating transitional habitat. (Amendment No One).

4. **Effects on Bay Resources.** As stated above, this multi-benefit project has the primary project purpose of reducing flood risk to the Alviso community and the City of San Jose Pollution Prevention Facility; the restoration of additional former salt ponds to tidal habitat; and would convert and increase the habitat functions and value of those areas for specific species, particularly those that rely on tidal marshes that were historically diked from the Bay. In the instance of ~~the construction of levee Reaches 1, 2, and 3, levee~~ the construction of levee Reaches 1, 2, and 3, levee and ecotone, 11,200 acres of former salt ponds would have enhanced habitat within five years of levee completion (Amendment No. Two).

However, some habitat loss will occur for specific species that specialize in higher salinity habitats. These species, primarily birds and invertebrates, would likely relocate to other former salt ponds or managed wetlands within the lower South Bay (Amendment No. One). The creation of ecotone for high tide refugia within these ponds provides greater habitat diversity, and creates habitat for certain native plants where it currently does not exist. This issue will be further discussed in the natural resources policies section, including implementation of minimization, monitoring and adaptive management measures to ensure habitat development is proposed and would be required as part of the consistency determination in the future (Amendment No. One).

5. **Valid Title.** An evaluation of property ownership within the Reaches 1, 2 and 3 levee and ecotone construction area has been completed~~is currently in draft form~~. While the USFWS owns and manages Ponds A12 and A13, the City of San Jose owns Pond A18. Further, there are multiple properties within the levee footprint that belong to other entities ~~such as~~ including the State of California, Santa Clara County, the Union Pacific Railroad, Zanker Road Resource LTD., and private citizens. As part of the Project Cooperative Agreement ~~for the design phase of the project~~ signed by the project partners, the local project sponsors - the Conservancy and the SCVWD, are responsible for providing the lands, easements and right-of-ways (LERDs) prior to initiation of project construction. ~~Because~~ The Construction Project Cooperative Agreement is now~~not yet~~ signed and funds have ~~not~~ been appropriated, and the local project sponsors are working to obtain the necessary property rights to construct the project ~~are not yet required to provide the LERDs~~. The USFWS has signed a Memorandum of Understanding with the USACE, and has issued ~~anticipates issuing~~ a 50-year use permit to the USACE for construction and maintenance of the project ~~prior to initiation of construction~~. Special Condition II-C requires that the USACE and USFWS obtain valid title to the project properties and provide documentation of title to the Commission staff for review and approval prior to initiating construction activities. Commission staff has obtained and reviewed the USFWS use permit and awaits the submittal of the remaining property interest documents (Amendment No. Two~~One~~).

The Commission has determined that ~~the project described in the~~ construction of levee Reaches 1, 2, and 3, and the ecotone adjacent to levee Reach 1 ~~Levee and Ecotone consistency determination~~ is consistent to the maximum extent practicable with its law and policies regarding fill in the Bay and in salt ponds.

C. **Public Access**

1. **Maximum Feasible Public Access.** Section 66602 of the McAteer-Petris Act states that "...existing public access to the shoreline and waters of the...[Bay] is inadequate and that maximum feasible public access, consistent with a proposed project, should be provided." The Bay Plan Public Access policies state that "a proposed fill project should increase public access to the Bay to the maximum extent feasible...", and that "access to and along the waterfront should be provided by walkways, trails, or other appropriate means and connect to the nearest public thoroughfare where convenient parking or public transportation may be available." Public access to some natural areas should be provided for study and enjoyment of these areas. However, the Bay Plan recognizes that some wildlife are sensitive to human intrusion. For this reason, projects in such areas should be carefully evaluated in consultation with appropriate agencies to determine the appropriate location and type of access to be provided. Public access should be sited, designed and managed to prevent significant adverse effects on wildlife.

Further, the Bay Plan Recreation policies state, “Bay resources in waterfront parks and, where appropriate, wildlife refuges should be described with interpretive signs. Where feasible and appropriate, waterfront parks and wildlife refuges should provide diverse environmental education programs, facilities and community service opportunities, such as classrooms and interpretive and volunteer programs.” In addition, for flood protection projects, the Recreation policies state, “[t]o enhance the appearance of shoreline areas, and to permit maximum public use of the shores and waters of the Bay, flood control projects should be carefully designed and landscaped and, whenever possible, should provide for recreational uses of channels and banks (Amendment No. One).

The ~~complete full~~ Shoreline Project would result in a net reduction of public access to the Bay when the project is complete. While direct access between Alviso Slough and the trails along Coyote Creek would be improved by providing a more direct route on top of the new flood protection levee, breaching salt pond levees to return the ponds to tidal action would eliminate portions of existing trails. For example, the USACE and USFWS state, “by breaching the existing A9-A15 pond berms, the project will modify the Alviso Slough Loop Trail. As the project is completed and all the ponds are restored, the trail length will decrease from an approximately 9-mile loop to a 3.3-mile trail out-and-back trail system on the eastern side of Ponds A12, A13, and A15.” The ~~complete full~~ Shoreline Project proposes a number of public access improvements to offset the loss of some trails and a multi-use trail offsite that would be part of future amendments to this Letter of Agreement (Amendment No. One). The Commission has authorized several large marsh restoration projects in recent years, primarily in salt ponds and all with significant public access areas and improvements, but in some cases, due to both habitat concerns and costs associated with bridging new breaches some public access trails were eliminated (Amendment No. Two).

Currently, a portion of the Bay Trail exists on the top of the landward edge of the salt pond berms of Ponds A12, A13, and A15 ~~existing flood protection levee~~ between Alviso Marina County Park and Artesian Slough. As part of the levee Reaches 1, 2, and 3 ~~levee~~ construction, the berm would be deconstructed and the levee would be built in its place, rising would be raised as much as 10 feet from the existing grade (increases in levee height vary along the alignment) and the levee crown would be 16 feet wide, creating the opportunity to improve this portion of the Bay Trail. Once the construction of these Reaches are 1 ~~is~~ complete, the trail, approximately 1.750.81 ~~1.750.81~~-mile, 12-foot wide (surfaced with either decomposed granite or crushed aggregate), with two 2-foot wide shoulders on either side, would be restored on the levee crown. The improved section of the trail would likely enhance views to the Bay to the east and New Chicago Marsh on the west due to the increase in elevation. Replacing the trail atop the new ~~flood risk~~ levee would also limit the trail’s exposure to rising seas over the next fifty years (Amendment No. Two ~~One~~).

The combined levee Reaches 1, 2, and 3 levee trail begins at Alviso Marina County Park and ends at the Don Edwards Wildlife Refuge Education Center (Education Center) adjacent to Artesian Slough, but the two segments of trail would not be connected until 2022 when the levee reach construction is complete. ~~Both~~ the County Park and the Education Center have ~~has~~ ample public parking, interpretative signs, public restrooms, and boardwalks leading into the tidal marsh for observing habitat and wildlife. Constructing Reach 1 trail provides an opportunity for interim use of the trail in an out and back fashion while pedestrian bridges and additional levee reaches are constructed over the next three ~~to five years~~. While the construction may necessitate closure of the trail during periods of ecotone construction, once Reach 1 is complete, trail access should be available.

Alviso County Park has its own network of trails and overlooks as well as connections to the larger South Bay Salt Pond trail system (Exhibit C). As part of construction of Reach 1, the project would impact an existing County Park trail. As a result of negotiations, the Shoreline Project would reconstruct the existing trail on the western toe of the levee, creating a parallel, two trail system in this area. Construction of this new trail section is included in public access requirements, but the maintenance of this second trail will be the responsibility of County Parks and is included in the Commission permit for that area.

Special Condition II-E requires the construction and use of the first reach of levee trail once the levee is complete. This condition also allows for the interim closure of this portion of the trail as necessary to construct additional project features such as the ecotone habitat or pedestrian crossing bridge over the Union Pacific Railroad tracks. It is anticipated that by allowing temporary closures, the trail would be open for use earlier in the project phasing than if no closures were allowed, necessitating no use of the trail until the full project is complete (Amendment No. One). In addition, the Project Sponsors have developed a plan, which has been reviewed and approved by Commission staff, that describes potential closures and durations, and measures to protect public safety during truck hauling within the County Park (Amendment No. Two).

The Commission's Public Access and Fish, Other Aquatic Organisms, and Wildlife policies consider potential conflicts between public access and wildlife needs. Shorebirds and terns may create nesting colonies near the trail or other public access features. Special Condition II – E.3. addresses this potential conflict with public access by allowing for seasonal trail closures when nesting birds are present. Similarly, the USFWS would likely apply Refuge rules for use of the trails and public access amenities within their property. Inclusion of Special Condition II – E.2. formalizes this process and ensures that Commission staff is aware of and in agreement with the rules and restrictions that would be applied (Amendment No. Two).

It is unclear at this time whether amenities, such as signage and seating areas would be included on this portion of the trail. As the Commission receives further amendment requests, the complete public access package should become more apparent. Currently, it is the ~~staff~~ understanding of staff that the USFWS would be responsible for maintaining the trail once it is constructed and the SCVWD and SCC would be responsible for maintaining the pedestrian bridge over the railroad tracks (Amendment No. Two). Some of the complications that have limited the available public access information include the designing of the pedestrian bridges for the railroad and Artesian Slough, which rely in part on discussions with other entities (Union Pacific Railroad and the San Jose Pollution Prevention Plant) and the time needed to further develop the full project design while concurrently initiating construction in order to advance the project and provide needed flood risk reduction to the Alviso community (Amendment No. One). The Commission staff anticipates asking the Commission whether the complete public access plan is the maximum feasible public access consistent with the project in the next amendment, which will include the last levee reach (Amendment No. Two).

The Commission has determined that the project described herein, including the construction of levee Reaches 1, 2 and 3 trail, and the conceptual design of the pedestrian bridge ~~Levee and Ecotone consistency determination~~, as conditioned, is consistent to the maximum extent practicable with its law and policies regarding applicable public access, design and scenic views, and recreation policies.

- D. **Safety of Fills and Shoreline Protection.** The Bay Plan policies on Safety of Fills state that “[t]he Commission may approve fill that is needed to provide flood protection for existing projects and uses. New projects on fill or near the shoreline should either be set back from the edge of the shore so that the project will not be subject to dynamic wave energy, takes future sea level rise into account for the expected life of the project, be specifically designed to tolerate periodic flooding, or employ other effective means of addressing the impacts of future sea level rise and storm activity. Rights-of-way for levees or other structures protecting inland areas from tidal flooding should be sufficiently wide on the upland side to allow for future levee widening to support additional levee height so that no fill for levee widening is placed in the Bay.” The Commission’s Shoreline Protection policies state, “[n]ew shoreline protection projects and the maintenance or reconstruction of existing projects and uses should be authorized if: (a) the project is necessary to provide flood or erosion protection for...existing development, use or infrastructure...; (b) the type of the protective structure is appropriate for the project site, the uses to be protected, and the erosion and flooding conditions at the site; (c) the project is properly engineered to provide erosion control and flood protection for the expected life of the project based on a 100-year flood event that takes future sea level rise into account; (d) the project is properly designed and constructed to prevent significant impediments to physical and visual public access; and (e) the protection is integrated with current or planned adjacent shoreline protection measures. Professionals knowledgeable of

the Commission's concerns, such as civil engineers experienced in coastal processes, should participate in the design." The policies further state that "[a]uthorized protective projects should be regularly maintained according to a long-term maintenance program to assure that the shoreline will be protected from tidal erosion and flooding and that the effects of the shoreline protection project on natural resources during the life of the project will be the minimum necessary."

Further, the policy states "Whenever feasible and appropriate, shoreline protection projects should include provisions for nonstructural methods such as marsh vegetation and integrate shoreline protection and Bay ecosystem enhancement, using adaptive management. Along shorelines that support marsh vegetation, or where marsh establishment has a reasonable chance of success, the Commission should require that the design of authorized protection projects include provisions for establishing marsh and transitional upland vegetation as part of the protective structure, wherever feasible." And finally, that "[a]dverse impacts to natural resources and public access from new shoreline protection should be avoided." (Amendment No. One).

As described by the USACE and USFWS, this multi-benefit project includes significant shoreline protection via the construction of a 100-year tidal flood protection levee adjacent to eight salt ponds that would be restored to tidal action in future phases. In developing the project design, the project partners evaluated alternate locations for the flood protection levee, taking into consideration adjacent land uses, such as New Chicago Marsh and the protection of the community of Alviso and the City of San Jose Pollution Prevention Facility, and determined the most appropriate action was to excavate the landward salt pond levees and construct the new flood risk reduction levee to elevations sufficiently protective of the 100-year storm event, at a final elevation of 15.2 feet NAVD88. The proposed elevation was determined by evaluating the projected high sea level rise scenario elevation for the South Bay in 2067 (2.59 ft), when mean higher high water is anticipated to be 10.23 NAVD88. As a result the National Interest levee height was determined to be 12.5 feet NAVD88. However, the local project sponsors determined that a higher levee would better prepare the region for rising seas and is providing the funds for construction to 15.2 NAVD88 (Amendment No. Two). Building the levee to this height would be protective of existing development, with an additional 5 feet of freeboard (Amendment No. One).

The location of the levee is set back from the current Bay edge, buffered by former salt ponds that will be breached as a future phase of this project. To further reduce flood risk from wave run up and to provide transitional ecotone habitat, the project has incorporated a bayward levee slope of 30:1, which would slow and dissipate wave action as it approached the new Bay shore. In the event of tidal flooding or heavy storms, this transitional habitat would potentially be inundated; however, the periodic flooding would represent a natural and important event in the habitat development and sustainability (Amendment No. One).

The flood gate located between levee Reaches 1 and 2 would be constructed to the same height as the levee crest and would be manually closed in the event of coastal flooding sufficient to overwhelm the existing salt pond berms A12, A13, and A16. If a coastal flooding event occurs prior to construction of the flood gate closure, typical flood fighting measures would be employed (e.g., sand bags) to prevent inland flooding through the railroad track opening. Special Conditions II-A and B require that the final design of the flood gate conform to the 60% design, and that the final design is reviewed and approved by staff on behalf of the Commission when they are available (Amendment No. Two).

A 15-foot wide maintenance corridor on the landward side of the levee is planned, and may be used in the future to support further widening of the levee to increase its height if necessary. As part of the feasibility study for this project, the USACE conducted extensive geotechnical review of the levee alignment to determine if the older, soft Bay muds lying beneath the project could support the new levee. This analysis led to the engineering and design techniques calling for excavation of soft soils, importation of appropriate soils, site dewatering, fill and compaction of the new soil to ensure levee integrity. In developing the design for levee Reaches 1, 2, and 3, the USACE has complied with appropriate engineering standards and will monitor and maintain the levee for five years, and will certify it prior to transferring it to the local project sponsors (SCVWD) for future maintenance (Amendment No. ~~Two~~One).

In the federal consistency determination process, the Commission staff has raised the issue of stockpiled soils potentially causing a shift in the soft bay muds due to excessive weight, resulting in a “mud wave” or rotation of deeper soils upward into the adjacent area. This has recently been an issue at Loch Lomond Marina in San Rafael due to overloading of soft soils, and similarly at the Brooklyn Basin project in Oakland, causing a collapse of the shoreline there. In response to Commission staff concerns, the USACE provided an analysis of the potential issue, and outlined measures to prevent such an occurrence. These measures include limiting the height of initial stockpiling to 7 feet NAVD88 in an area offset from the levee construction by 15 feet, and maximizing the slope at 1:1; limiting the side slopes to 5:1 in accord with the geotechnical analysis; grading the stockpile on an interim basis to facilitate drainage between the stockpile and the new levee; and limiting the leading edge of all stockpiled soils to 10:1 slope, further guarding against overloading the soft salt pond soils. Special Condition II-D includes a number of measures that provide additional oversight, as well as minimize potential failure of slopes of subsurface soils (Amendment No. One).

Because this project is a multi-benefit project, it combines objectives to both protect existing communities from tidal flooding and using gently sloping transitional ecotone habitat adjacent to Ponds A12, A13 and A18, a nonstructural flood protection method to support marsh vegetation and Bay ecosystem enhancement.

The project, while separate from the South Bay Salt Pond Restoration Project, uses the same adaptive management strategy for supporting appropriate habitat restoration in a phased approach. This approach includes monitoring wildlife as sets of ponds are restored at five-year intervals. The project sponsors are planting portions of the transitional habitat with appropriate mid- and high-marsh species, while lower marsh habitat would be passively vegetated, and seeding higher elevations with grasses and other alkaline meadow species; all with a high likelihood of success if the project elevations are established correctly.

The Commission has determined that the fill proposed in the levee Reaches 1, 2, and 3 ~~Levee~~ and Reach 1 associated ecotone, as conditioned, is consistent to the maximum extent practicable with the Commission's safety of fills and shoreline protection policies.

- E. **Climate Change.** The Bay Plan policies on Climate Change state, "within areas that a risk assessment determines are vulnerable to future shoreline flooding that threatens public safety, all projects... should be designed to be resilient to mid-century sea level rise projection" and "[i]f it is likely the project will remain in place longer than mid-century, an adaptive management plan should be developed to address the long-term impacts that will arise...." The Climate Change policies go on to state that, "[u]ntil a regional sea level rise adaptation strategy can be completed, the Commission should evaluate each project proposed in vulnerable areas on a case-by-case basis to determine the project's public benefits, resilience to flooding, and capacity to adapt to climate change impacts." The policies also state that natural resource restoration projects "should be encouraged, if their regional benefits and their advancement of regional goals outweigh the risk from flooding." The Bay Plan policies on Safety of Fills state that "[a]dequate measures should be provided to prevent damage from sea level rise and storm activity that may occur on fill or near the shoreline over the expected life of a project...." (Amendment No. One).

A primary project purpose is to protect the community of Alviso, neighboring businesses, and the San Jose Pollution Prevention Facility from tidal flooding. The USACE and USFWS state that implementation of the concept plan "...will provide protection from a one-percent annual chance of exceedance (ACE) flood through the end of the 50-year period of analysis, accounting for sea level rise under the USACE high scenario. Additionally, this project will tie into the surrounding FRM [flood risk management] projects, which also provide protection from a one-percent ACE flood." The Corps' consistency further states "the project is consistent with USACE planning policies, which calls for a typical period of analysis of 50 years." "Regardless, USACE conducted an end-of-century analysis (through 2100) using the high sea level rise rate. The analysis showed that even with extremely high sea level rise, the project will be resilient through 2067. As designed, the project could likely obtain right-of-ways to expand [sic] the FRM levee beyond 2067 to 2079; however, beyond this date additional detailed analysis will likely be required and additional right-of-ways obtained."

For the period from 2017 through 2067 (approximately mid-century), the USACE used a low rate of sea level rise of 6.12 inches and a high rate of 31.08 inches. For the period from 2017 through 2100 (end of century), the Corps used a low rate of sea level rise of 31.08 inches and a high rate of 60.6 inches. The Commission currently uses the State of California Ocean Protection Council Sea Level Rise Guidance Update (2018), which includes projections at 1.1-1.9 feet at 2050 (13.2-22.8 inches) to 3.4-6.9 feet at 2100 (40.8 to 82.8 inches). ~~based on the National Research Council projections, currently uses sea level rise projections ranging from 10-17 inches at mid-century (2050) and 31-69 inches through the end of the century.~~ The USACE states that the results of its analysis “indicate that for the low rate, the project will provide a level of risk reduction for the one-percent bayside water level through the year 2100. The current Federal Emergency Management Agency (FEMA) certification requirement of two feet of freeboard will also be maintained. For the high rate the project will provide risk reduction against the one-percent bayside ACE water level through 2094; however, the 2-foot FEMA certification requirement will only be maintained through 2067.... The project is resilient to 2067 (mid-century). Based on consideration of actionable climate science, the earliest date that would trigger a comprehensive revision of flood risk in the area would be year 2067 if a significant acceleration of sea level rise occurred, resulting in the high sea level rise scenario. The project will have adaptive capacity to elevation 16.0 feet NAVD88.... Beyond this time, additional plans will need to be made.” The Levee Reaches 1, 2, and 3 ~~levee~~ construction is designed in compliance with the projections and flood risk reduction requirements described above (Amendment No. Two~~One~~).

In regards to the pedestrian bridge over the railroad tracks, the current design is somewhat conceptual and is at 60% design due to ongoing discussions with the Union Pacific Railroad and their needs for potential upgrades to the existing rail system. As currently proposed, the bridge is tied into the levees and is supported by at least one pile/pillar. Additional designs will be provided prior to construction, and as with the flood gate, Special Condition II-A and B require consistency with the proposed design, further design review and approval prior to construction (Amendment No. Two).

The Commission concurs that the Levee Reaches 1, 2, and 3 ~~Levee~~ and Reach 1 associated ecotone as described ~~in the Shoreline Project consistency determination,~~ and conditioned herein, is consistent to the maximum extent practicable with the Commission’s safety of fills and sea level rise policies.

F. Natural Resources.

- 1. Tidal Marshes and Tidal Flats.** The Bay Plan Salt Pond and Tidal Marshes and Tidal Flats policies cumulatively state, that “where and whenever possible, former tidal marshes and tidal flats that have been diked from the Bay should be restored to tidal action in order to replace lost historic wetlands or should be managed to provide important Bay habitat functions....” Further, “[a]ny project for the restoration, enhancement or conversion of salt ponds to subtidal or

wetland habitat should include clear and specific long-term and short-term biological and physical goals, success criteria, a monitoring program, and provisions for long-term maintenance and management needs. Design and evaluation of projects in former salt ponds should include an analysis of: (a) the anticipated habitat that would result from pond conversion or restoration, and the predicted effects on the diversity, abundance and distribution of fish, other aquatic organisms and wildlife; (b) potential fill activities, including the use of fill material to assist restoration objectives; (c) flood management, mosquito abatement and non-native species control measures; (d) the protection of public utilities facilities; (e) the siting, design and management of public access while avoiding significant effects on wildlife; and (f) protection of water quality from high salinity discharges, methyl mercury, low dissolved oxygen and contaminated sediments.”(Amendment No. One).

In addition, “tidal marsh restoration projects anywhere Commission’s jurisdiction should include in design and evaluation an analysis of: (a) how the system’s adaptive capacity can be enhanced so that it is resilient to sea level rise and climate change; (b) the impact of the project on the Bay’s sediment budget; (c) localized sediment erosion and accretion; (d) the role of tidal flows; (e) potential invasive species introduction, spread, and their control; (f) rates of colonization by vegetation; (g) the expected use of the site by fish, other aquatic organisms and wildlife; (h) an appropriate buffer, where feasible, between shoreline development and habitats to protect wildlife and provide space for marsh migration as sea level rises; and (i) site characterization.” The policies further state that, “[b]ased on scientific ecological analysis and consultation with the relevant federal and state resource agencies, a minor amount of fill may be authorized to enhance or restore fish, other aquatic organisms or wildlife habitat...”(Amendment No. One).

The complete Shoreline Project would restore approximately 2,900 acres of tidal marsh habitat to areas long diked off from the Bay and used for salt production. Phase 1 of the project involves breaching two former salt ponds (A12 and A18) to the Bay, restoring tidal action to 1,120 acres in 2022 2024 when ponds A12 and A18 are breached. This Amendment Nos. One and Two includes levee construction and stockpiling of soils/sediment for the Reach 1 levee and transitional ecotone habitat in Ponds A12 and A13, and Reaches 2 and 3, respectively, and therefore these policies are applicable to this portion of the project. In undertaking this activity, the project would permanently impact approximately 0.22 acres of tidal marsh at the Alviso Marina County Park where the new levee will tie in with the existing levee and 0.772 acres of tidal marsh where Reach 3 terminates at Artesian Slough, including the levee footprint and a smaller area that would be necessary for maintenance access in perpetuity. The USACE estimates another 0.313 acres of temporary impacts to tidal marsh would

occur due to construction access activities (Amendment No. Two). It is anticipated that this loss would be fully offset by the large area of tidal marsh that would develop over time (Amendment No. One).

The restoration of these former salt ponds is aligned with the approach taken for the adjacent South Bay Salt Pond Project, carefully studying wildlife use of the existing habitat, experimenting with specific design features, monitoring wildlife's response and use of various ponds for a period of five years. The next phase of pond restoration is informed through the findings from previous salt pond restorations. Because the South Bay Salt Pond project is large, and geographically concentrated in three areas of the South Bay, project sponsors have the ability to research knowledge gaps and evaluate restoration techniques, while using the information to adaptively manage the project. The South Bay Shoreline Project is different in that it incorporates a large flood risk reduction levee to protect existing communities and infrastructure, but the restoration actions are similar and integrates what has been learned from the Salt Pond Restoration Project (Amendment No. One).

The construction of the transitional ecotone in Ponds A12 and A13 is somewhat experimental in that while the maximum slope is defined, the actual construction would likely include undulations and different widths of transition zone, and well as some variation in slope along the reach. This design will allow the project sponsors to evaluate how vegetation and wildlife respond to different ecotone conditions, while providing habitat diversity, and a place where tidal marsh can transgress inland with rising seas. The results of this evaluation will inform further restoration work as the project proceeds. Once the ponds are breached, they are expected to naturally accumulate sediment over time from the sediment-rich South Bay waters. As the sediment accumulates, the USACE and USFWS anticipate plants to passively vegetate the tidal areas. The transitional ecotone that would initially be inundated would be expected to vegetate fairly rapidly, while higher elevations would require planting and maintenance over time until sea level rise begins to transition the mid marsh areas to lower marsh, high marsh and meadow to mid and the high marsh respectively. (Amendment No. One).

The USACE and USFWS are proposing a 10-year monitoring program after each project phase is breached (breaches occur in three phases, approximately every five years) so that it can assure the project meets ecosystem restoration objectives and to provide information allowing land managers to adaptively manage the site. Some elements of that monitoring program include: (1) measurements of water levels, sediment accretion rates, and suspended sediment concentrations; (2) tidal marsh habitat acreage; (3) abundance of non-native plants; (4) plant species composition in upland transition zones; and (5) predators of Ridgeway's rail and salt marsh harvest mice. Per USACE policy, the first 10 years after each phase of pond breaching will be cost shared by the Corps and non-federal sponsors. After each 10-year period, the non-federal sponsors

would be responsible for continuing any additional monitoring. While the proposed 10-year monitoring plan is for a significant period, the project site has some deeply subsided areas, particularly Pond A12.

There is concern that the proposed monitoring period may not be sufficient to evaluate the successful vegetation of the site or gather much needed information regarding the efficacy of the transitional habitat, especially in light of the anticipated changes associated with rising seas. Thus, it is likely that after the 10-year period of cost-shared monitoring and adaptive management, the restored ponds will only be sparsely vegetated. In addition, 10 years is probably too soon for much relevant information to be gathered about how the ecotone functions in the face of sea level rise, information of key interest to other efforts to assure that San Francisco marshlands persist as sea level rises, and the effectiveness of ecotones (AKA horizontal levees) as an adaptive strategy. The project sponsors have discussed the ability to continue monitoring in some form as part of the South Bay Salt Pond Restoration Project, with the local project sponsors taking the lead on additional monitoring, but currently the proposed mitigation plan is limited. Portions of the monitoring and adaptive management of the site would be performed by the local project sponsors, the Conservancy and the SCVWD. The Conservancy and the SCVWD have applied for an administrative permit for the project, which will primarily involves the monitoring and maintenance that the USACE and USFWS would not be responsible for, such as levee maintenance once the flood risk levee is certified by the USACE and transferred to the SCVWD and longer-term monitoring requirements. The terms of these requirements would be clearly defined in the permit and consistency determination conditions. Other restoration criteria will be evaluated in later amendments to this consistency determination as more detailed plans are developed and provided (Amendment No. One).

Special Condition II-F-11 requires monitoring of habitat development through the proposed Monitoring and Adaptive Management Plan, and the development of a more in-depth monitoring plan to supplement the monitoring that is proposed. The condition recognizes that the project will likely align the monitoring program with the South Bay Salt Pond's monitoring program, which is appropriate given the proximity of the two projects and the join project sponsors and stakeholders (Amendment No. One).

Construction of levees often create opportunity for invasive species to colonize a site, whether plants or animals due to disturbed soils, increased connectivity, and new habitat niches. Similar opportunities may arise from construction of the ~~Because the transitional ecotone habitat will only be constructed after the Reach 1 levee, and for at least a few years while levee Reaches 2 through 5 are constructed,~~ there is significant potential for invasive species to become an issue before native vegetation can be established at this site, particularly in newly disturbed soils. To address this potential issue, the USACE and USFWS propose a few different approaches depending on the invasive species. For plants, the primary concerns are

upland ruderal species, pepperweed, and invasive spartina (cord grass). Per Special Condition II-F-10, equipment entering the site would be cleaned and inspected for seeds and vegetative matter as a preventative measure. The upper portion of the transitional ecotone and the levee slopes would be hydroseeded with an appropriate mix of native plants seeds, including grasses, forbes and small shrubs. No large woody vegetation would be included or allowed to naturally colonize these areas due to concern for levee integrity. Lower portions of the transitional ecotone would be planted with native species and the lowest portions would be allowed passively vegetate with tidal marsh species, such as the native spartina (cord grass), pickleweed, fat hen, alkali heath and other suitable species.

There is some anticipation that non-native, non-invasive species of plants may also colonize the area, and limit the native vegetation by their presence. These species would be managed through hand tool removal as needed. Management of invasive Spartina, if it begins to colonize the site, would include removal using hand tools and limited use of an appropriate herbicide in coordination with the Invasive Spartina Project. Pepperweed, another highly invasive species would be managed by appropriately trained personal with herbicide (Amendment No. One).

Regarding invasive and predatory animals, habitat fencing may be used to limit access to the site. No dogs will be allowed on USFWS trails or the refuge, and the City properties require dogs to be leashed at all times. The USACE and USFWS would prepare a predator management plan that would address other invasive and predatory animals. Special Condition II-F includes requirements to control both invasive plants and animals, as well as best management practices for construction equipment that will limit the introduction of invasive plants (Amendment No. One).

2. **Fish, Other Aquatic Organisms and Wildlife.** The Bay Plan policies on Fish, Other Aquatic Organisms and Wildlife state that, “[t]o assure the benefits of fish, other aquatic organisms and wildlife for future generations... the Bay’s tidal marshes, tidal flats, and subtidal habitat should be conserved, restored, and increased.” These policies also state that “[t]he Commission should consult with the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service or the National Marine Fisheries Service whenever a proposed project may adversely affect an endangered or threatened plant, fish, other aquatic organism or wildlife species...and give appropriate consideration of (their) recommendations in order to avoid possible adverse impacts of a proposed project on fish, other aquatic organisms and wildlife habitat.”

One of the project purposes is restoring approximately 2,900 acres of former salt ponds to full tidal action and their eventual evolution to tidal marsh habitat. While the population of some species in the area are likely to decline with the loss of pond habitat, breaching the levees is likely to result in immediate benefits to water quality, tidal circulation, and the populations of a great many other

species, including most marsh-centric endangered and special status species such as the Ridgway's rail, California black rail, salt marsh harvest mouse, steelhead, and green sturgeon. Based on the results of other restoration projects, including the adjacent South Bay Salt Pond Restoration Project, the benefits to fish and wildlife can be expected to be dramatic and significant, though it will be many years before fully functioning tidal marsh becomes established.

Adjacent to levee Reaches 2 and 3 is New Chicago Marsh, a non-tidal salt marsh that supports native salt marsh species, including the state and federally listed salt marsh harvest mouse. The site currently receives water in the summer months from an 18-inch pipe, located in Reach 3 of the levee alignment, connecting Pond A16, a managed pond, and the marsh. The proposal includes replacement of the pipe with a manually-operated water control structure consisting of a 48-inch diameter pipe, concrete apron, inspection deck, and railing. This feature would convey water from Pond A16 to New Chicago Marsh during the summer months to maintain water and habitat. Without replacing the existing water control structure, the habitat within New Chicago Marsh would degrade during the dry summer months likely reduce value and function for the species that live in or forage within that site (Amendment No. Two).

The USFWS issued a biological opinion for Shoreline Project ~~this concept plan~~ on April 27, 2015. The National Marine Fisheries Service (NMFS) issued a not likely to adversely affect concurrence letter on May 19, 2015. Listed species that may be impacted during ~~levee this portion of the project~~ construction include: salt marsh harvest mouse; Ridgway's rail; snowy plover; and least tern. These consultations included a number of best practices, minimization and management measures that would be applicable during the construction of the ~~Reach 1~~ levee and ecotone. The project sponsors have incorporated these requirements into the construction and project management plans. The measures include, but are not limited to: minimizing the construction disturbance area; education of construction employees on avoidance and minimization measures to protect listed and special status species; avoiding night time work in areas of listed species; having a resource agency approved biological monitoring on site during construction activities; limiting timing of construction, maintenance and management activities to two hours after an extreme high tide; installation of raptor perch deterrents; observing established environmental work windows when working within 700 feet of existing tidal marshes; use of hand tools for vegetation removal when working in areas of listed species habitat, maintaining appropriate distances from active nesting sites during breeding season; and other species specific measures as described. With the proposed minimization measures included in Special Condition II-F, the construction of ~~the levee~~ Reaches 1, 2, and 3 ~~levee~~ and ecotone would minimize potential harmful effects to wildlife (Amendment No. One).

3. **Water Quality.** The Bay Plan policies on Water Quality state, “Bay water pollution should be prevented to the greatest extent feasible. The Bay’s tidal marshes, tidal flats, and water surface area and volume should be conserved and, whenever possible, restored and increased to protect and improve water quality.” The policies also state, “[w]ater quality in all parts of the Bay should be maintained at a level that will support and promote the beneficial uses of the Bay as identified in the San Francisco Bay Regional Water Quality Control Board’s (RWQCB) Basin Plan and should be protected from all harmful or potentially harmful pollutants.” The policies, recommendations, decisions, advice, and authority of the State Water Resources Control Board and the Regional Board should be the basis for carrying out the Commission’s water quality responsibilities.” Finally, the Bay Plan policies on Water Quality state that “new projects should be sited, designed, constructed, and maintained to prevent or, if prevention is infeasible, to minimize the discharge of pollutants into the Bay by: (a) controlling pollutant sources at the project site; (b) using construction materials that contain nonpolluting materials; and (c) applying appropriate, accepted, and effective best management practices; especially where water dispersion is poor and near shellfish beds and other significant biotic resources.” While there are opportunities for water quality impacts from the complete Shoreline Project, including such issues as salinity changes and methyl mercury production, work authorized hereinthis amendment request is limited to the construction of the levee Reaches 1, 2, and 3 levee and ecotone, and stockpiling of soils for future use, construction of a flood gate, water control structure, and pedestrian bridge (Amendment No. Two). These activities would occur primarily within the confines of existing former salt ponds surrounded by salt pond berms. Ponds A12 and A13 have low levels of water present during the winter, and are either passively drained or evaporated and managed in the dry for much of the spring, summer and fall to allow use by nesting and loafing snowy plovers, least terns and other native shorebirds. Use of a portion of Pond A18 would require draining a least a portion of the site to allow soil stockpiling to occur. As a result, much of the construction would occur in “dry” conditions, reducing potential water quality impacts for these activities (Amendment No. One). In order to construct Reaches 2 and 3 of the levee, a temporary berm would be constructed within Pond A16 to allow dewatering of the construction area within the pond (Amendment No. Two).

~~However,~~ As with any construction project, there is potential for impacts to water quality, both on site and in adjacent areas. The San Francisco Bay Regional Water Quality Control Board’s (Water Board) issued the South Bay Shoreline Project Order (R2-2017-0049) on December 13, 2017. As part of the Order, this and other water quality issues associated with levee construction are addressed through best management practices and the requirement to develop a storm water management plan that includes both site water management and the management of soil and erosion (Amendment No. Two).

The largest potential issue is the importation of soil from offsite areas. Sources of soil include those excavated in SCVWD's offsite projects and those produced by construction projects in the region. In order to address potential soil contaminant issues, the project sponsors and the San Francisco Bay Regional Water Quality Control Board (Water Board) have established soil testing criteria for soils that would be used on site. Soil not meeting these criteria would be rejected as not suitable for use. This testing criteria has been promulgated in the Water Board's December 13, 2017 South Bay Shoreline Project Order (R2-2017-0049).

To address other potential water quality issues associated with levee and ecotone construction, the project sponsors will develop a storm water management plan that would address both site water and the management of soil and erosion. Other water quality impact minimization measures that would be implemented include, but are not limited to: placement of a berm or sediment control device around all stockpile areas; maintaining roads and accessways in good condition; disposal of construction materials or debris outside the project site at an appropriate facility; stabilization of disturbed areas within 12 hours of any break in construction activities; and hydroseeding bare soils to further prevent erosion. Special Condition II-D and G both contain measures and requirements that will avoid and minimize impacts to Bay and former salt pond water quality (Amendment No. One).

The Commission has determined that the project, as conditioned, is consistent to the maximum extent practicable with its laws and policies regarding natural resources and water quality.

- F. **Review Boards.** This first phase of the Shoreline Project, including levee Reaches 1, 2, and 3, is limited to construction of 1.75 ~~0.81~~ miles of levee and .81 miles of transitional habitat and public access is limited to a linear trail atop the levee and a 640 to 970-foot long pedestrian overpass. Because there are no design features to consider on this portion of the trail, the Commission's Design Review Board did not review the public access. Further, because Bay fill is limited, and the USACE completed an extensive geotechnical review of the levee alignment, the Engineering Criteria Review Board did not review the project. The design review boards may review ~~portions of the project as planning proceeds, such as~~ the railroad overcrossing, and flood gates, and the proposed public access package as more details are developed (Amendment No. Two~~One~~).
- G. **Environmental Review.** The USACE, the USFWS, the SCVWD and the Conservancy jointly prepared and issued a Final Integrated Interim Feasibility Study with Environmental Impact Statement and Environmental Impact Report (FEIS/EIR) in September 2015 (Amendment No. One).

The Assistant Secretary of the Army (USACE) issued a Record of Decision for the Shoreline Project Phase 1 on July 28, 2016, making the determination that "[t]echnical, environmental, and economic criteria used in the formulation of

alternative plans were those specified in the Water Resources Council's 1983 Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies. All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives. Based on the review of these evaluations, I find that benefits of the recommended plan outweigh the costs and any adverse effects. This Record of Decision completes the National Environmental Policy Act process.” (Amendment No. One).

The SCVWD certified the FEIR and issued a statement of overriding consideration March 22, 2016. The CEQA review found that the project would result in significant impacts on hydrology, water quality, biological resources, hazards and hazardous materials, air quality, noise, and cultural resources. Most of these significant environmental impacts are short term impacts relating to construction, however, the project will result in substantial and permanent loss of managed wetlands, habitat necessary for pond specific birds. The impacts to these species is being adaptively managed through the South Bay Salt Pond Restoration Project’s adaptive management plan, which is integrated with this project (Amendment No. One).

The statement of overriding considerations found that the project would provide tidal flood protection benefits to approximately 6,000 residents and people working in the area. A structure inventory identified 1,140 structures, transportation corridors, the City of San Jose wastewater treatment plant, and other critical infrastructure in the floodplain that would be protected by the project. In addition, the Project would create approximately 2,900 acres of tidal marsh habitat and ecotone, thereby restoring ecological structure and function, area, and connectivity, historically lost in the South Bay. The project would create transitional habitat, which has largely disappeared from Bay marshes. These habitat areas serve as high-tide refugia for threatened and endangered species and also provide habitat for a unique suite of plant species. The ecotone also would allow inland migration of the restored marshes in response to sea level change. Further, the recreational benefits include enhanced outdoor recreational opportunities and improved access to the [Don Edwards Wildlife] Refuge and adjacent restored marsh areas for the public. The proposed recreation features are estimated to increase the annual number of visitors to the Refuge by 20 percent and would create key connections in the San Francisco Bay Trail (Amendment No. One).

IV. Standard Conditions

A. Letter of Agreement Execution. This amended Letter of Agreement shall not take effect unless the USACE and USFWS execute the original of this amended Letter of Agreement and return it to the Commission within ten days after the date of the issuance of the amended Letter of Agreement. No work shall be done until the acknowledgment is duly executed and returned to the Commission (Amendment No. One).

B. Notice of Completion. The attached Notice of Completion and Declaration of Compliance form shall be completed and returned to the Commission within 30 days following completion of the work (Amendment No. One).

C. Assignment of Letter of Agreement. The rights, duties, and obligations contained in this amended Letter of Agreement are assignable. If/when the USACE and USFWS transfer any interest in any property either on which the activity is authorized to occur or which is necessary to achieve full compliance of one or more conditions to this amended permit, the USACE and USFWS (transferors) and the transferees shall execute and submit to the Commission a Letter of Agreement/Permit assignment form acceptable to the Executive Director. An assignment shall not be effective until the assignees execute and the Executive Director receives an acknowledgment that the assignees have read and understand the amended Letter of Agreement/Permit and agree to be bound by the terms and conditions of the amended Letter of Agreement/Permit, and the assignees are accepted by the Executive Director as being reasonably capable of complying with the terms and conditions of the amended permit (Amendment No. One).

D. Letter of Agreement Runs with the Land. Unless otherwise provided in this amended Letter of Agreement, the terms and conditions of this amended Letter of Agreement shall bind all future owners and future possessors of any legal interest in the land and shall run with the land (Amendment No. One).

E. Other Government Approvals. All required permissions from governmental bodies must be obtained before the commencement of work; these bodies include, but are not limited to the State Lands Commission, the Regional Water Quality Control Board, and the city or county in which the work is to be performed, whenever any of these may be required. This amended Letter of Agreement does not relieve the USACE and USFWS of any obligations imposed by State or Federal law, either statutory or otherwise (Amendment No. One).

F. Built Project Must Be Consistent with Application. Work must be performed in the precise manner and at the precise locations indicated in the application, as such may have been modified by the terms of the amended Letter of Agreement and any plans approved in writing by or on behalf of the Commission (Amendment No. One).

G. Life of Authorization. Unless otherwise provided in this amended permit, all the terms and conditions of this amended Letter of Agreement shall remain effective for so long as the amended Letter of Agreement remains in effect or for so long as any use or construction authorized by this amended Letter of Agreement exists, whichever is longer (Amendment No. One).

H. Commission Jurisdiction. Any area subject to the jurisdiction of the San Francisco Bay Conservation and Development Commission under the Coastal Zone Management Act at the time the amended Letter of Agreement is issued or thereafter shall remain subject to that jurisdiction notwithstanding the placement of any fill or the implementation of any substantial change in use authorized by this amended permit. Any area not subject to the jurisdiction of the San Francisco Bay Conservation and Development Commission that becomes, as a result of any work or project authorized in this amended permit, subject to tidal action shall become subject to the Commission's "Bay" jurisdiction (Amendment No. One).

I. Changes to the Commission's Jurisdiction as a Result of Natural Processes. This amended Letter of Agreement reflects the location of the shoreline of San Francisco Bay when the amended Letter of Agreement was issued. Over time, erosion, avulsion, accretion, subsidence, relative sea level change, and other factors may change the location of the shoreline, which may, in turn, change the extent of the Commission's regulatory jurisdiction. Therefore, the issuance of this amended Letter of Agreement does not guarantee that the Commission's jurisdiction will not change in the future (Amendment No. One).

J. Violation of Letter of Agreement May Lead to Commission Objection. Except as otherwise noted, violation of any of the terms of this amended Letter of Agreement shall be grounds for Objection to the consistency determination. The Commission may revoke any amended Letter of Agreement for such violation after a public hearing held on reasonable notice to the USACE and USFWS or their assignees if the amended Letter of Agreement has been effectively assigned. If the amended Letter of Agreement is revoked, the Commission may determine, if it deems appropriate, that all or part of any fill or structure placed pursuant to this amended Letter of Agreement shall be removed by the USACE and USFWS or their assignees if the amended Letter of Agreement has been assigned (Amendment No. One).

K. Should Permit Conditions Be Found to be Illegal or Unenforceable. Unless the Commission directs otherwise, this amended Letter of Agreement shall become null and void if any term, standard condition, or special condition of this amended Letter of Agreement shall be found illegal or unenforceable through the application of statute, administrative ruling, or court determination. If this amended Letter of Agreement becomes null and void, any fill or structures placed in reliance on this amended Letter of Agreement shall be subject to removal by the amended USACE and USFWS or their assignees if the amended Letter of Agreement has been assigned to the extent that the Commission determines that such removal is appropriate. Any uses authorized shall be terminated to the extent that the Commission determines that such uses should be terminated (Amendment No. One).

L. Permission to Conduct Site Visit. The USACE and USFWS shall grant permission to any member of the Commission's staff to conduct a site visit at the subject property during and after construction to verify that the project is being and has been constructed in compliance with the authorization and conditions contained herein. Site visits may occur during business hours without prior notice and after business hours with 24-hour notice (Amendment No. One).

M. Abandonment. If, at any time, the Commission determines that the improvements in the Bay authorized herein have been abandoned for a period of two years or more, or have deteriorated to the point that public health, safety or welfare is adversely affected, the Commission may require that the improvements be removed by the USACE and USFWS, their assignees or successors in interest, or by the owner of the improvements, within 60 days or such other reasonable time as the Commission may direct (Amendment No. One).

N. In-Kind Repairs and Maintenance. Any in-kind repair and maintenance work authorized herein shall not result in an enlargement of the authorized structural footprint and shall only involve construction materials approved for use in San Francisco Bay. Work shall occur during periods designated to avoid impacts to fish and wildlife. The USACE and USFWS shall contact Commission staff to confirm current restricted periods for construction (Amendment No. One).